REMARKS

In view of the above amendments and the remarks advanced below, Applicants respectfully request reconsideration and withdrawal of the rejections of the claims.

By the present response, claims 1, 24 and 25 are amended, and claim 3 is canceled without prejudice or disclaimer. Claims 1, 2 and 4-30 currently are pending, with claims 7-16, 19-23 and 26-30 withdrawn from consideration by the Examiner.

Claim 1 is amended to address minor informalities and to recite that the laser device includes a contact layer made of a nitride semiconductor layer and formed over a substrate, that the first cladding layer is formed over the contact layer, and that a $In_yGa_{1-y}N$ of the first conductivity type is formed between the contact layer and the first cladding layer. Support for these features is found, for example, in Figure 1 and the description thereof starting at page 18 of the specification. Additionally, claims 24 and 25 have been amended to explicitly recite all the features of amended claim 1 and claim 4, respectively.

On page 2 of the Office Action, claims 24 and 25 are objected to for allegedly being of improper dependent form. More specifically, the Examiner alleges that these claims fail to further limit the subject matter of a previous claim. Applicants respectfully disagree with this statement, as each of claims 24 and 25 incorporate all the features of claims 1 and 4, respectively, and further respectively recite "an optical circuit" and "an optical integrated unit," which are not recited, and thus not necessarily required, in the subject matter defined in claims 1 and 4. Hence, each of claims 24 and 25 does further limit the subject matter of a previous claim. Furthermore, Applicants have amended claims 24 and 25 to explicitly recite all the features of their respective independent claims 1 and 4, which are considered allowable for at least the reasons given below, and are therefore themselves allowable. While Applicants submit the present amendments to claims 24 and 25 would not change the coverage of these claims if they were to remain as dependent claims, it is hoped they serve to show the Examiner that they are indeed not identical to independent claims 1 and 4, respectively.

The Office Action includes a rejection of claims 1-3 and 24 under 35 U.S.C. §103 as allegedly being obvious over Sverdlov (U.S. Patent No. 6,455,337) in view of Kimura et al. (JP11008437). This rejection is respectfully traversed, as the Sverdlov and Kimura documents, whether considered individually or in combination, fail to teach each and every feature set forth in independent claim 1, and hence also in the dependent claims, for the following reasons:

An aspect of the present invention is that spontaneous emission from the active layer can be absorbed at high efficiency by forming an InGaN layer having the indium mole fraction larger than in an active layer between a first cladding layer and a contact layer that is formed over a substrate. These features are broadly encompassed by the subject matter recited in Applicants' amended claim 1, which is directed to a semiconductor laser device including *inter alia* a contact layer, which is made of a nitride semiconductor of a first conductivity type and is formed over a substrate, a first cladding layer, which is made of the nitride semiconductor of the first conductivity type and is formed over the contact layer; an active layer, which is made of $In_yGa_{1-y}N$ and is formed over the first cladding layer, and an $In_xGa_{1-x}N$ layer of the first conductivity type is formed between the contact layer and the first cladding layer, wherein the $0 < x < 1$, $0 < y < 1$ and $x \geq y$ in the composition of In. In contrast to these claimed features, the device described in the Sverdlov patent includes an InGaN layer formed between a first cladding layer and an active layer formed on a substrate (e.g., see Figure 1, n-type InGaN layer 18 formed between cladding layer 16 and active layer 20). Additionally, Sverdlov discloses that the indium mole fraction in the InGaN layer is smaller than that in the active layer (see, column 4, lines 36-39).

The Kimura et al. document does not remedy the deficiencies pointed out above with respect to the Sverdlov patent. First, the parts of Kimura et al. relied upon for disclosing the claimed $In_yGa_{1-y}N$ layer of the first conductivity type, wherein the $0 < x < 1$, $0 < y < 1$ and $x \geq y$, actually describes an undoped InGaN layer 202 (i.e., the buffer layer) having an indium mole fraction larger than in the active layer 107 formed between the substrate 101 and the cladding layer 105 (see, Figure 2 and paragraph 28). Because the InGaN relied upon from the Kimura et al. document is undoped, Kimura et al. does not teach or suggest the claimed first conductivity type InGaN layer as recited in claim 1. Accordingly, neither Sverdlov nor Kimura et al. teach or suggest the invention as recited in claim 1.

Another distinctive feature set forth in the claim 1 combination, which is not described or suggested in Kimura et al., is that the InGaN layer of the first conductivity type is formed between the contact layer and the first cladding layer. In the device of Kimura et al., the InGaN layer 202 is formed between the substrate 101 and the cladding layer 105. Kimura et al. teaches that such an InGaN layer 202 is formed as a low temperature buffer layer for crystal growth, and that it is common in the field to form the low temperature buffer layer adjacent to the substrate 101. Thus, there is no suggestion in Kimura et al. to form the undoped InGaN layer 202 (i.e., buffer layer) between the contact layer 103 and the cladding

layer 105, much less a teaching of forming and InGaN layer of the first conductivity type as claimed.

Additionally, while it is noted that Kimura et al. discloses an n-type InGaN layer 104 formed between the contact layer 103 and the cladding layer 105, the indium mole fraction in the n-type InGaN layer 104 (i.e., 0.1) is *smaller* than that in the active layer (0.2).

For all the above reasons, the combination of features set forth in claim 1 would not have been obvious from the proposed combination of Kimura et al. and Sverdlov.

On pages 4 to 5 of the Action, claims 4-6 and 25 are rejected under 35 U.S.C. § 102 as allegedly being anticipated by the Kimura et al. This rejection is respectfully traversed, as the Kimura et al. document fails to disclose an $In_xGa_{1-x}N$ layer of the second conductivity type formed between the second cladding layer and the electrode, as set forth in combination with the other features of claim 4. The Examiner alleges that Kimura et al. discloses a second conductivity type $In_yGa_{1-y}N$ contact layer 111 (i.e., p-type conductivity in this embodiment of Kimura et al.). However, the layer 111 is described in Kimura as being a GaN layer (see, paragraphs 20 and 28). The structure relied upon from Kimura et al., therefore, is different from what is recited in claim 4. Accordingly, Kimura et al. fails to anticipate claim 4. As such, the rejection is improper and should be withdrawn.

Claims 2, 3, 5 and 6 depend from one of claims 1 and 4, and are therefore allowable at least for the above reasons, and further for the additional features recited.

Furthermore, the Examiner is respectfully requested to rejoin and allow claims 17 and 18 because these claims depend from one of allowable claims 1 and 4, and thus encompass all the features of these allowable claims.

Allowance of the present application and prompt notice of the same is respectfully requested without further delay.

Respectfully submitted,

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